

## **PRESSING MECHANISM FOR PAPER CUTTING DEVICE**

### **FIELD OF THE INVENTION**

The present invention relates to a pressing mechanism for a paper cutting device and the mechanism is easily to assemble and reliable for  
5 long-term of use.

### **BACKGROUND OF THE INVENTION**

A conventional pressing mechanism for paper cutting device is disclosed in Figs. 1 and 2 and generally includes a frame 11 including a first board 112 with two second boards 111 connected to two ends of a  
10 front side of the first board 112. A U-shaped bracket 12 has two extensions on two ends thereof and a threaded rod 13 extends through the two extensions and a wheel 14 is connected to a top end of the threaded rod 13. Two circular plates 114 are connected to two rods on the two second boards 111. Two toothed member 153 each have teeth 1531 defined in a  
15 curve side thereof and are respectively connected to two link assemblies 15. Each link assembly 15 includes a first piece 151 and a second piece 16, the first piece 15 has a hole 152 so as to pivotably mount to the two rods and the second piece 16 has a pin which is pivotably connected an end of a pressing member 17. Each toothed member 153 has a connection portion  
20 1532 which has a groove 1533 in which the respective one of the two circular plates 114 is engaged. The pressing member 17 can be lowered or raised by rotating the wheel 14 and the two toothed members 153 are then pivotable about the two rods by the rotation of the threaded rod 13 to drive

the teeth 1531 on the toothed members 153. The teeth 1531 are directly engaged with the threaded rod 13 and driven by the threaded rod 13 so that there is a serious wear-out problem for the teeth 1531 and the threaded rod 13.

5           The present invention intends to provide a pressing mechanism that has a simpler structure and is reliable for long-term of use.

### SUMMARY OF THE INVENTION

10           In accordance with one aspect of the present invention, there is provided a pressing mechanism for a paper cutting device and the mechanism comprises a frame having a U-shaped bracket connected thereto. The U-shaped bracket has two extensions on two ends thereof and a threaded rod extends through the two extensions. A wheel is connected to a top end of the threaded rod. A sleeve is threadedly mounted to the threaded rod and located between the two extensions of the U-shaped  
15   bracket. The sleeve has two rack portions.

          Two link assemblies each have a first plate and a second plate which is connected to one of two ends of the first plate. The other end of each of the first plates has teeth which are engaged with the rack portions of the sleeve. The two first plates are pivotably connected to the board and  
20   the two second plates are pivotably connected to a pressing member.

          The pressing member is up and down by rotating the wheel of the threaded rod.

The present invention will become more obvious from the following description when taken in connection with the accompanying drawings which show, for purposes of illustration only, a preferred embodiment in accordance with the present invention.

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#### BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is an exploded view to show a conventional pressing mechanism of a paper cutting device;

Fig. 2 is a perspective view to show the conventional pressing  
10 mechanism of a paper cutting device;

Fig. 3 is a perspective view to show the pressing mechanism of the present invention is connected to a paper cutting device;

Fig. 4 is an exploded view to show the pressing mechanism of the present invention;

15 Fig. 5 is a perspective view to show the pressing mechanism of the present invention, and

Fig. 6 shows the pressing member is moved up and down by rotating the wheel on the threaded rod.

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

20 Referring to Fig. 3, the paper pressing mechanism 50 of the present invention comprises is connected with a paper cutting device 40 and both of which are put on a bench 20. The paper cutting device 40 includes a base 41 and a cutting blade 43 is pivotably connected to the base

41. An arm 42 is pivotably connected to the base 41 and operates the blade  
43. Two guide fences 30 and 31 are respectively installed on the bench 20  
in two directions so as to guide the paper during operation. A guide groove  
21 is defined in a top of the bench 20 so that the paper cutting device 40  
5 can be moved along the guide groove 21 when needed.

Referring to Figs. 3 to 6, the paper pressing mechanism 50  
comprises a frame 51 having a board 511 and a U-shaped bracket 52 is  
connected to the board 511. The U-shaped bracket 52 has two extensions  
521 on two ends thereof and the board 511 is located between the two  
10 extensions 521. A threaded rod 53 extends through the two extensions 521  
and a wheel 531 is connected to a top end of the threaded rod 53. Two pins  
513 extend from a side of the board 511. Two end plates 512 are connected  
to two ends of the board 511 and two guide plates 544 are connected to the  
board 511.

15 A sleeve 54 has a threaded passage 541 so that the sleeve 54 is  
threadedly mounted to the threaded rod 53 by engaging the threaded  
passage 541 with the threaded rod 53. The sleeve 54 is located between the  
two extensions 521 of the U-shaped bracket 52. The sleeve 54 has two rack  
portions 543.

20 Two link assemblies each have a first plate 55 and a second plate  
56 which is connected to one of two ends of the first plate 55. The other  
end of each of the first plates 55 has teeth 552. The two first plates 55 are  
pivotably connected to the board 511 by inserting the two pins 513 in two

holes 551 in the two first plates 55. The two second plates 56 each have a pin 561 which is pivotably inserted in holes 573 in a pressing member 57. The pressing member 57 includes serrated edge 571 and two guide flanges 572 are located on two ends thereof. The two flanges 572 of the pressing member 57 are movable along sides of the end plates 512. The two second plates 56 are engaged with the rack portions 543 by the teeth 552 on the second plates 56. The sleeve 54 includes two grooves 542 and the guide plates 544 engaged with the grooves 542 so that the sleeve 54 is moved up and down by rotating the wheel 531. As shown in Fig. 6, a pile of paper is put on the bench 20 and pressed by the pressing member 57 and the guide plates 544 ensure the movement of the sleeve 54 to be stable.

The pressing mechanism 50 includes less number of parts compared with the conventional mechanism and the can be used for a longer period of time.

While we have shown and described the embodiment in accordance with the present invention, it should be clear to those skilled in the art that further embodiments may be made without departing from the scope of the present invention.